Communication Booknotes Quarterly,2007, vol 38:1, p.5-26.
ISSN: 1094-8007 (paper) 1532-6896 (online)
doi: 10.1080/10948000701301338
http://www.taylorandfrancis.com/
http://www.tandf.co.uk/journals/titles/10948007.asp
http://www.informaworld.com/10.1080/10948000709336525

1. CBQ REVIEW ESSAY: *Cyborg Discourse: Technology's Transformation of Communication*

by Gerald S. Greenberg (Ohio State University)

The notion of the cyborg—a human/technology hybrid—originally conjured extreme reactions from communication scholars. As communication professor Annette Markham describes the divergent views, either computer-mediated communication (CMC) would usher in a utopian age in which communicators would operate in a blissfully disembodied environment, or we would all become reclusive hackers lurking in a darkness only dimly illuminated by a cold, unblinking, computer monitor. The books that are discussed below, while testifying to the stark changes wrought by CMC, have also arrived at a more careful, thoughtful, and accepting analyses of the possibilities presented by it. Perhaps Donna Haraway's groundbreaking essay, "A Manifesto for Cyborgs," (see **The Haraway Reader** below) is symbolic of the turning point in the approach to CMC. In it, Haraway embraces the erasure of the man/machine boundary—one which had already been significantly effaced through existing technologies of medicine, industry, and war—because it ushered in a world without history (and its agonizing conflicts), and without beginning or end. Whether for good or bad, Haraway asserts, modern communications has become a science that sees the world as a coding problem. For her acceptance of CMC, Haraway suffered the slings and arrows of many an angry feminist colleague who took a much harsher view of the computer's impact on progressive human relations, but her analysis has been cited, referenced and adopted by many subsequent CMC scholars.

Many scholars agree that communication in cyberspace is fundamentally different from previous modes: the presence of others is sensed rather than known, says Mexican anthropologist Lourdes Arizpe, and interaction entails piecemeal creation of a new reality, accomplished through the process of dynamic interplay involving words, symbols, and metaphors. New identities can be constructed by users who easily cross national boundaries, and the traditional demarcation line between bodies and information is effectively effaced. But is this good? Perhaps not, argues author Michael Lewis, who finds the speed of Internet communication to be "wildly disruptive." Professors Thomas Lindlof and Brian Taylor worry that over-employment of CMC amounts to abandonment to machines of the researcher's traditional role as interpreter. William J. Mitchell of MIT suggests that today the proper study of mankind is the "electronomadic cyborg," living in a world dominated by connections.

Others argue that CMC is essentially benign, and that its message is not fundamentally new. English professors Mary Hocks and Michelle Kendrick contend that any distinction drawn between the print and the visual is artificial. Those who insist upon such distinctions, they maintain, live in fear of the world's essentially hybrid nature. Many also fail to appreciate that the development of cyberculture is rooted in the distant past, argues UCLA's N. Katherine Hayles. Its

origin is to be found within a social and cultural matrix that extends back centuries, and technology alone, Hayles insists, is incapable of explaining it.

Does CMC satisfy a human desire for disembodiment? No, asserts performance artist Stelarc—just the opposite: the Internet offers one the opportunity to impose one's bodily presence into cyberspace. Perhaps CMC marks the way to a futuristic utopia, but how accurate have past visions of such utopias been? Not very, if we look at 1984 and 2001, Darren Tofts and Annemarie Johnson remind us. Their volume, **Prefiguring Cyberculture**, suggests that we would do better to view CMC within a broad cultural context in order to arrive at better understanding of its potential.

In Gill Kirkup's **The Gendered Cyborg: A Reader**, Donna Haraway writes of a 1990's Bell Telephone television commercial in which a pregnant woman phoned her husband in order to transmit the news of her ultrasound examination which she was viewing on a computer screen. Here we see a fascinating visual and verbal interaction of humans, telephone, and computer video display described by Haraway as "Life copies art copies technology copies communication copies life itself." Such an image presents us with the great promise of cyberculture—its ability to communicate across traditional boundaries to produce hybrid objects of beauty and wonder. Perhaps cyberculture will achieve its promise, or it may go the way of architect Eero Saarinen's futuristic TWA terminal—described by culture critic Marc Dery as "a symbol of things to come that never came."

38:1

The Cybercultures Reader edited by David Bell and Barbara M. Kennedy (London: Routledge, 2000—$124.95/$34.95, 0-415-18378-2 hard, 0-415-18379-0 paper, 768 pp., notes, illustrations) seeks to understand the manner in which cyberculture is being experienced and imagined. Digital communications are considered alongside related technologies such as virtual reality, digital imaging systems, biomedical technologies, and entertainment systems. In chapter 39, "Post-Bodies, Aging and Virtual Reality," author Mike Featherstone addresses the ramifications of distance communication technologies based on disembodied modes of interaction such as voice or text. He finds that disembodiment, by facilitating anonymous interactions, promotes creation of shared worlds that serve as host for playful, fantasy-based expressions. These encounters are not necessarily dehumanizing, the author asserts. Instead, they may create new possibilities for intimacy and self-expression. Although it is usually the young who participate in these technology-based disembodied interactions, Featherstone feels that they may be best suited to the needs of the aged who are faced with restricted mobility or impaired communicative ability. The author is Professor of Sociology and Communications at Nottingham Trent University, Nottingham, England, and founding editor of the journal *Theory, Culture & Society*. In chapter 32, "Will the Real Body Please Stand Up?" Allucquere Rosanne Stone traces the history of virtual systems in four epochs: printed texts; electronic communication (beginning with the telegraph and reaching what she believes to be its greatest expression in Franklin Roosevelt's fireside radio chats); information technology and interactive systems; and the creation of virtual communities. Stone warns, however, that no matter how virtual we become, there is always a body attached, and when we forget this fact, there are unpleasant consequences for those whose speech is silenced as a result. Stone is Assistant Professor of Radio-TV-Film at the University of Texas at Austin. Other authors in this volume include Donna Haraway ("Cyborg manifesto"), Anne Basalmo ("The Virtual Body in Cyberspace"), and the late Timothy Leary ("The Cyberpunk: The Individual as Reality Plot"). Other topics examined include the anthropology of cyberculture, cyborgs in comic books, science fiction films, gaming, hacking, cyberhate, gay/lesbian identity in cyberspace, and

transexuality. Editors David Bell and Barbara Kennedy are affiliated with the Cultural Studies Department at the University of Staffordshire, UK.

38:2

Writing Space: Computers, Hypertext, and the Remediation of Print by Jay David Bolter (Mahwah, NJ: Lawrence Erlbaum Associates, 2001 [2nd ed.]—$69.95/$32.50, ISBN 0-8058-2918-0 hard, 0-8058-2919-9 paper, 232 pp., references, index) ponders the future of print media, and wonders whether the death of print will spell the death of prose as well. Bolter notes the existence of many contradictory predictions made regarding the future of print communication: the book will become obsolete (computer scientist Raymond Kurzweil); virtual reality makes the book irrelevant (authors John Tiffin and Lalita Rajasingham); print books will survive because no one wants to read a novel in electronic format (novelist E. Annie Proulx); sensible limits on electronic media will preserve the book for the future (author Mark Slouka); the demise of print is inevitable, driven by societal compulsion (author Swen Bikerts). The culture war, Bolter argues, is essentially a dispute about modes of representation. The outcome of this argument, the author contends, has profound implications for education and its reliance upon verbal literacy; entertainment and the presence of sex and violence on television; and censorship in all media. Bolter sees these conflicts as clashes between word and image. Technology is proceeding to refashion both the voice of text and the space within which writing occurs. In chapter 3, "Hypertext and the Remediation of Print," Bolter casts hypertext as a new form of writing. Hypertext symbols have meanings that can be explained in words, but they also have meaning as links—"elements in a larger structure of verbal gestures." Word processing allows the writer to think in terms of large verbal units or topics, the author explains, because phrases, sentences and paragraphs can be revised with a single keystroke. Electronic writing is inclusive, because it accommodates multiple systems of representation. It is also constructive, Bolter argues, in ways that print cannot be: hypertext links, once created, function as sources of connections that expand upon initial symbols. Print and electronic writing still need each other, however, according to the author: print provides the tradition upon which electronic writing depends, and electronic writing is necessarily defined as that which goes beyond print. In chapter 6, "Refashioned Dialogues," Bolter follows the path of dialogue from essay to web page, while in chapter 7, "Interactive Fiction," he traces the rise of hypertext fiction championed by novelist Robert Coover as an innovative type of literary expression. Readers participate in the story. Narratives may be examined in any order. This is a fictional space with great flexibility. Bolter takes pleasure in presenting the reader with a form of writing that "disrupts the linear" and revels in experimentation. In chapter 8, "Critical Theory in a New Writing Space," Bolter finds affinities with poststructuralist thought: the World Wide Web promotes non-authoritative sources of information; intertextuality is a feature honored by Web designers who are "rewriting the possibilities of reference and allusion;" and Derrida's vision of text as a differential network of traces can easily be seen, Bolter asserts, as descriptive of electronic text. This volume was originally (and appropriately) accompanied by an associated website: www.lcc.gatech.edu/~bolter/writingspace/. At present, the page cannot be found. (The companion to the first edition of the book was a hypertext version on a diskette.) The author directs the writing program in the School of Literature, Communication, and Culture at the Georgia Institute of Technology.

38:3
The Sage Handbook of Qualitative Research edited by Norman K. Denzin and Yvonna S. Lincoln (Thousand Oaks: Sage, 2005 [3rd ed.]—$130.00, ISBN 0-7619-2757-3, 1210 pp., references, index) provides the reader with a comprehensive picture of qualitative research—its history, development, methodology, internal tensions/crises, and its perception by critics. Chapter 31, "The Methods, Politics, and Ethics of Representation in Online Ethnography," by Annette N. Markham (Associate Professor of Communication, University of the Virgin Islands), discusses how the Internet has changed the manner in which one conducts research. "In cyberspace, one dwells in language, and through language," declares one of the author's online interview participants. But a second maintains that computer-mediated communication fosters ambiguity, while a third celebrates its preciseness. Is CMC a means of transcending the limits of one's body, resulting in a communicational utopia? Will it turn citizens into reclusive hackers? Markham acknowledges both extremes, but she finds that CMC's impact is philosophically more profound: In cyberspace "I think, therefore I am" is converted into "I am perceived, therefore I am"/"I am responded to, therefore I am." The author finds that polarized depictions of CMC in the early 1990's have yielded to more descriptive and comparative studies in recent years. These inform examinations of qualitative research's weaknesses, Markham asserts. Without physical presence, qualitative researchers cannot leap to conclusions based on visual cues such as body type, skin color, or hair style. This makes clear, the author contends, that qualitative researchers need to continue to confront the "enduring partiality" that poses a persistent challenge to their research. The handbook's list of distinguished contributors includes Bryant Keith Alexander, Michael V. Angrosino, Paul Atkinson, Zygmunt Bauman, John Beverly, Russell Bishop, Ivan Brady, Kathy Charmaz, Susan E. Chase, Julianne Cheek, Clifford G. Christians, Benjamin F. Crabtree, Michelle Fine, Douglas Foley, Andrea Fontana, James H. Frey, Davydd J. Greenwood, Egon G. Guba, Jaber E. Gubrium, Douglas Harper, James A. Holstein, Stephen Kemmis, Joe L. Kincheloe, Gloria Ladson-Billings, Morten Levin, George E. Marcus, Peter Mc Laren, Robin Mc Taggart, Virginia L. Olesen, Anssi Peräkylä, Ken Plummer, Laurel Richardson, James Joseph Scheurich, John K. Smith, Linda Tuhiwai Smith, Robert E. Stake, Kathleen Stewart, Barbara Tedlock, and Lois Weis.

38:4
Virtual Gender: Technology, Consumption and Identity edited by Eileen Green and Alison Adam (London: Routledge, 2001—$114.95/$34.95, ISBN 0-415-23314-3 hard, 0-415-23315-1 paper, 330 pp., tables, figures, references, index) examines the manner in which information and communication technologies (ICTs) can be said to be "gendered." The sixteen chapters discuss the issues of leisure, pleasure, consumption, and identity as they relate to gender and technology. Chapter 2, "Gender in Email-Based Co-operative Problem-Solving," finds that, unlike face-to-face communication, there are no significant gender differences in email-mediated, problem-solving encounters. Authors Greg Michaelson (Mathematical and Computer Sciences, Heriott-Watt University, Edinburgh, Scotland) and Margit Pohl (University of Technology, Vienna, Austria) believe that gender-based strategies that benefit men when both communicators are physically present are defeated by asynchronous communication. The conversational aggressiveness and domination frequently found in studies of face-to-face communication were absent in the 1995 and 1998 studies of private discussions conducted by the authors. Michaelson and Pohl theorize that bodily presence is a necessary component of gender-stereotyped behavior.

The experiments employed university students who were asked to cooperate in solving each others problems via email. The studies employed both quantitative and conversation analysis. In chapter 12,"Gender and Citizenship in the Information Society: Women's Information Technology Groups in North Karelia," Marja Vehviläinen (Senior Lecturer, Communication, University of Helsinki, Finland) examines how a women's information technology group in eastern Finland fostered a sense of active citizenship that would have been difficult to attain without the assistance of communication technology. The computer-based technology study group, NiceNet (from the Finnish word "nais" meaning "women's"), functioned as a valuable link between the public and private spheres, and provided an alternative to the individual "equal access" citizenship sponsored by government policy. The author believes that NiceNet is an example of the type of rooted, place-based women's political group described by Arturo Escobar in his study of cyberculture, "Gender, Place, and Networks: A Political Ecology of Cyberculture" in **Women @ Internet: Creating New Cultures in Cyberspace** (below), one which allows women to escape patriarchal practices. The women, however, needed to rely on the technological expertise of men, and their use of the Finnish language made it difficult for them to forge alliances with women's groups in other countries—another notion promoted by Escobar. Other topics covered in this volume include: computer gaming, virtual reality, the domestic telephone, the digital city of Amsterdam, gender-switching on the Internet, and webcam voyeurism.

38:5

The Haraway Reader by Donna Haraway (New York: Routledge, 2004— $100.00/$24.95, ISBN 0-415-96688-4 hard, 0-415-96689-2 paper, 352 pp., references, index) attempts to subvert the dualities that the author believes pervade Western cultures. Haraway seeks to help create continuing, inclusive (and sometimes contradictory) stories as an alternative to the defni-tive histories with which we are so frequently confronted. Chapter 1, "A Manifesto for Cyborgs: Science Technology, and Socialist Feminism in the 1980s," garnered much attention and criticism. The author acknowledges that the essay caused her to be viewed by some as "a blissed-out, techno-bunny, fembot" by those who decried her celebration of cybernetics even as she bemoaned it. Originally written as a piece for the *Socialist Review*, the author argues for enjoyment of the erasure of boundaries characterized by the cyborg. We are all cyborgs, Haraway declares, because animal and machine are joined in so many areas of our existence—medicine (which regards both body and machine as coded devices), industry ("a cyborg colonization of work"), war (a command-control-communication-intelligence device was an $84 billion item in the 1984 U.S. defense budget), and politics (presaged by Foucault's conception of biopolitics). The author delights in the cyborg's place in the utopian tradition, residing in a post-gender world, thankfully free of Oedipal conflicts—a world outside history without beginning or end. Haraway cites three critical boundary breakdowns that enable her analysis of the cyborg: human/animal (language and tool use common to both), organism/machine (what is natural vs. artificial?), and physical/non-physical (our best machines are electromagnetic waves). Haraway sees modern communications as a science concerned with translating the world into a coding problem. This is illustrated by examination of cybernetic systems theory as applied to devices such as the telephone, the computer, databases and weaponry. The author concludes the chapter by maintaining that the image of the cyborg ably expresses the fact that universal theory is a mistake which overlooks reality. We must accept responsibility for the social relations of science, and reject demonization of technology. Other chapters comment on the issues of humanism, semiotics, cell biology, primate science, technoscience, and companion species. The book concludes with an

interview of Haraway conducted by Nina Lykke (Professor in Gender and Culture, Linköping University, Sweden), Randi Markussen (Associate Professor, Information and Media Studies, Aarhus University, Denmark), and Finn Olesen (Associate Professor, Environmental and Business Economics, University of Southern Denmark). Haraway is Professor of Feminist Theory and Technoscience at the European Graduate School in Saas-Fee, Switzerland.

38:6

Women @ Internet: Creating New Cultures in Cyberspace edited by Wendy Harcourt (London: Zed Books, 1999—$65.00/$25.00, ISBN 1-85649-571x hard, 1-85649-572-8 paper, 240 pp., references, index) describes communication on the Internet as "piecing together a new reality" in the words of Lourdes Arizpe, anthropologist and professor at the National University of Mexico. In her preface to this volume entitled "Freedom to Create: Women's Agenda for Cyberspace," she characterizes interpretation of cyberspace as a process of "reaching out for new words, bouncing off symbols, crafting new metaphors." Peering through dark screens, the presence of others is sensed rather than known. Contours are perceived and images created. Cyberspace is an accelerator of our ability to build and create, Arizpe argues. Will this new tool be used well? In chapter 6, "Mapping Women's Global Communications and Networking," women's issues activist Alice Mastrangelo Gittler characterizes communication before and after the Internet. Before, networking with other women consisted of listening groups, newspapers, wire services, fax trees and newsletters. After the Internet, individual women felt that they were part of a larger process because networking was immediate. Participation increased and diverse perspectives were more easily heard. Mastrangelo Gittler also notes Internet communication's shortcomings: too many discussions occurred only in English, costs for developing countries were too high, and communication was one-way only for those without access to direct email. Editor Wendy Harcourt, program adviser at the Society for International Development, provides the book's conclusion, "Local/Global Encounters: WoN Weaving Together the Virtual and Actual." Speaking for Women on the Net (WoN), the editor expresses the view that women are generally enthusiastic about the opportunities for empowerment offered by the Internet, but there are those who warn that electronic communication is still restricted and women's voices dominated by those of men. Harcourt does not find the cyborg metaphor resonating with most women worldwide. Talk of a cyberculture is too far removed from most women's lives, she argues. It is a term that has meaning only for those who are active in northern feminist movements. Instead, Harcourt maintains, the Internet should be regarded as a useful tool for local political organizing. This is where one's identity in cyberculture may be found. It is most important, Harcourt asserts, that women ensure that they participate in crafting the development of cyberculture so that new varieties of gendered communication might emerge. Other contributors include Tanzanian female journalist Fatma Alloo; Lamis Alshejni of Yemen and the Society of International development; Iranian political scientist Farideh Farhi; UK/Ecuadorean journalist Sally Burch; Silvia Austerlic of the Virtual University of Latin America; indigenous peoples activist Kekula P. Bray-Crawford; and Women's Networking Support Programme of the Association for Progressive Communications members Edie Farwell, Peregrine Wood, Maureen James and Karen Banks.

38:7

Eloquent Images: Word and Image in the Age of New Media edited by Mary E. Hocks and Michelle R. Kendrick (Cambridge, MA: The MIT Press, 2003—$42.00/$22.00, ISBN 0-262-08317-5 hard, 0-262-58261-9 paper, 318 pp., references, index) asks the question of

whether digital media is fundamentally new and, more important, if it changes how people think and work. Hocks and Kendrick, both associate professors of English (at Georgia State and Washington State—Vancouver universities respectively) regard distinctions between print and visual culture as artificial, prompted by fear of the world's true hybrid nature. Citing sociologist Bruno Latour's **We Have Never Been Modern** (Cambridge, MA: Harvard University Press, 1993), the editors characterize binary descriptions of new media (e.g., visual/textual, image/word, emotional/rational) as "purification narratives" aimed at simplifying and classifying what is essentially contradictory and complex. The volume's first three chapters offer three approaches to the new media—one that sees it as the triumph of practice over theory, a second that regards it as presenting readers with a complicated combination of image and word, and a third that sees it as enabling a fully integrated form of cultural theory. Chapter 10, "Feminist Cyborgs Live on the World Wide Web: International and Not So International Contexts," examines the extent to which digital media has enabled women to create new identities for themselves online. Authors Gail E. Hawisher (Professor of English, University of Illinois) and Patricia Sullivan (Professor of English, Purdue University) argue that women worldwide employ the web to transgress national boundaries, forging new hybrid identities in the process. In surveying web creations from Russia (Russian WebGirls at www.russianwebgirls.com), Germany (WyberNetz at www.web-publishing.com/WyberNetz/ hello.htm), and Puerto Rico (www.soraida.com), Hawisher and Sullivan find that women appear to be intentionally overturning traditional assumptions about who they are. Computerized visuals and animation serve to demand viewer attention, the authors argue, successfully resisting traditional cultural formations. The result, Hawisher and Sullivan maintain, is "an international feminist cyberquilt" that is transforming global settings and creating new opportunities for women at both work and play. In chapter 13, "Writing a Story in Virtual Reality," Josephine Anstey (Assistant professor, Media Study, University of Buffalo) describes her creation of an interactive piece of fiction, "The Thing Growing," that permits the audience to experience what it is like to be involved in a claustrophobic, binding relationship. The author discusses control issues, immersion of the audience in the story, manipulation of the media, navigation and transition techniques. Other contributors to this book include Jay David Bolter (Professor of Language, Communication, and Culture at the Georgia Institute of Technology), Anne Frances Wysocki (Humanities Department, Michigan Technical University), Carol S. Lipson (Associate Professor of Writing and Rhetoric, Syracuse University), Kevin LaGrandeur (Associate Professor of English, New York Institute of Technology), and Matthew G. Kirschenbaum (Assistant Professor of English, University of Maryland).

38:8

The Gendered Cyborg: A Reader edited by Gill Kirkup, et al. (London: Routledge, 2000—$124..95/$36.95, ISBN 0-415-22090-4 hard, 0-415-22091-2 paper, 331 pp., figures, references, index) employs the metaphor of the cyborg to explore the interrelationship of representation, gender, and technoscience. Donna Haraway's "Cyborg Manifesto" is used as a point of departure, adopting her conception of technoscience as a conflagration of human and non-human actors through which is constituted what we consider to be nature. In chapter 3.4, "The Virtual Speculum in the New Order," Haraway analyzes a 1990's Bell Telephone television advertisement that urged viewers to "reach out and touch someone." The images in the ad consisted of a pregnant woman undergoing an ultrasound examination while telephoning news of the visualized fetus to her husband. She touches the display of the fetus on the ultrasound screen as

she communicates what she sees via the telephone. Modern communication practices serve as vehicles for the merger of reproductive technology and the visual arts. Television, computer video display, and the telephone interact to produce a remarkable interactive display of the nuclear family on the screen, alive with voice and touch. Haraway sees this process as "Life copies art copies technology copies communication copies life itself." In chapter 4.3, "Feminist AI Projects and Cyberfutures," Alison Adam proposes creation of an artificial intelligence (AI) system that incorporates feminist linguistic models. By adding a gender dimension to existing software tools that model conversation analysis, could not the outcome of inter-gender miscommunications be predicted? Adam cites Maureen Scott's unpublished study, "Conversation Analysis Model to Incorporate Gender Differences" (University of Manchester, Department of Communication, 1996) and Peter A. Heeman and Graeme Hirst's "Collaborating on Referring Expressions," *Computational Linguistics* 21 (1995): 351-382. Adam expresses hope that feminist AI projects may enable women to deconstruct the master's house with his own tools, but warns against the possibility that it may inadvertently succeed in constructing an additional annex. The volume is divided into four parts, each addressing a different aspect of the gender/technology interface: representation of gender by technoscience, feminist representation in science fiction film, gender and reproduction technologies, and women/information technology. Included in the last part is a brief essay by French philosopher and cultural theorist Luce Irigaray calling for development of a feminist language,"When Our Lips Speak Together." This piece originally appeared in the journal *Signs* 6.1 (1980). Editor Gill Kirkup is Senior Lecturer in Educational Technology, Institute of Educational Technology, The Open University, UK. Co-editors are Linda Janes (Staff Tutor, The Open University in the East Midlands, UK), Kath Woodward (Senior Lecturer in Sociology, The Open University, UK), and Fiona Hovenden (Senior Fellow, The Idea Factory, San Francisco).

38:9

Race in Cyberspace edited by Beth E. Kolko, Lisa Nakamura, and Gilbert B. Rodman (New York: Routledge, 2000—$90.95/$23.95, ISBN 0-415-92162-7 hard, 0-415-92163-5 paper, 248 pp., references, index) argues that race matters online. The editors acknowledge that one may effectively hide their race or gender when communicating online. One may even be able to assume a race or gender not one's own, but one's online identity does not carry over to the real world. Furthermore, Kolko (Assistant Professor of English at the University of Texas, Arlington) , Nakamura (Assistant Professor of Communication Arts and Visual Culture Studies, University of Wisconsin, Madison) and Rodman (Associate Professor of Communication, University of South Florida) contend, we bring our social experiences and values with us when we logon. The editors believe that online discourse wants to keep "the binary switch of race in the 'off' position," because it is not a safe or comfortable subject for discussion. Kolko, Nakamura, and Rodman see cyberspace as a "semiblank slate"—blank pages, empty chat rooms. The online communicators will write upon the pages, and they are responsible for the manner in which they fill in the blank space. They do so by constructing a virtual identity—choosing an email name, using a graphic avatar, or building a webpage. This is a constructivist environment that raises questions, posed by the editors, concerning where the disembodied cyberself may be situated. Specifically, the editors examine how race and cyberspace culturally represent each other. Does race disappear in cyberspace? Are old racist stereotypes recapitulated? Are new virtual realities of race written? In chapter 6, "In Medias Race: Filmic Representation, Networked Communication, and Racial Intermediation," David Crane (Assistant Professor of Filmic and Digital Media at the University of California, Santa Cruz) examines how race mediates between traditional, representational

conventions of film and new, cybernetic technologies depicted in movies about cyberspace. In the films Crane investigates, characters' blackness signifies otherness, and it is used to help integrate the otherness of cyberspace into the movie's narrative. In chapter 12, Beth Kolko's "Erasing @race: Going White in the (Inter)Face," the author describes describes the relationship between interface and race in cyberspace. Kolko asserts that communication in virtual worlds demands intense engagement: the communicator must decide explicitly who he/she is, and who he/she wants to say they are. As a result, Kolko argues, cyberspace interfaces significantly affect the interactions that are possible. The author discusses MOOScapes—online communities that reintroduce the notion of race in order to observe its affect on the social environment. Kolko maintains that doing so will educate us regarding the manner in which users bring perceptions into cyberspace. Other contributors to this volume include: Rajani Sudan (Professor of English, Southern Methodist University), Tara McPherson (Associate Professor, Critical Studies, University of Southern California), Mark Warschauer (Associate Professor, Education and Informatics, University of California, Irvine), Joe Lockard (Assistant Professor, English, Arizona State University), and Jonathan Sterne (Assistant Professor, Art History and Communication Studies, McGill University).

38:10

Asian America.Net: Ethnicity, Nationalism, and Cyberspace edited by Rachel C. Lee and Sau-ling Cynthia Wong (New York: Routledge, 2003—$85.00/$24.95, ISBN 0-415-96559-4 hard, 0-415-9650-8 paper, 316 pp., references, index) inquires into Asian American cultural practices, specifically the changes brought by electronic technology and their impact on community formation. Although cyberspace has allowed Asian Americans to graduate from the image of "nimble-fingered workers on the chip assembly lines in Santa Clara" to "cybertechies" whose special talents place them in the forefront of the technological revolution, the editors do not believe that Asian Americans use cyberspace as a means to escape social processes. Instead, they argue, cyberspace represents a new arena of power relations where Asian American cyborgs are recreating themselves in all their dimensions—both real and virtual. Lee and Wong cite Lisa Nakmura's article, "Race in/for Cyberspace: Identity Tourism and Racial Passing on the Internet," in *Works and Days 25/26* 13.1-2 (1995): 181-193, as one of the first to address the issue of Asian behavior in cyberspace, highlighting the hostility surrounding racial self-identification. Identification of one's race, Nakamura believed, injected an unwanted element of real life into the magical, work/play world of cybernetic textualism. This volume is divided into three sections: **cyberraces, cyberplaces**, **the pixelated Asia/Pacifc**, and **gender, sexuality, and kinship through the integrated circuit**. Chapter 13, "Queer Cyborgs and New Mutants: Race, Sex, and Technology in Asian American Cultural Productions," by Mimi Nguyen (Assistant Professor of Women's Studies, University of Michigan) is seen by the editors as an Asian response to Donna Haraway's "Manifesto for Cyborgs," described here as possibly "the founding text of cyberfeminism." Nguyen finds that digital space represents a problematic element for Asian Americans: it may be elastic enough to welcome and accommodate a multitude of individuals traditionally designated as others—social misfits, drag queens, transgendered rebels, or it may facilitate the erasure of historic forces that originally gave birth to the desire for liberation. The author does not conceive of cyberspace as a place that promotes authentic discourse but rather one where a new construction of all bodies and communities is possible. Other contributing authors include Wendy Hui Kyong Chun (Modern Culture and Media, Brown University), Jerry Kang (Professor of Law, UCLA), Vinay Lal (Associate Professor, History, UCLA), Yuan Shu

(Department of English, Texas Tech University), Emily Noelle Ignacio (Assistant Professor of Sociology, Loyola University, Chicago), Aeju Kim (Department of English, Dongguk University, South Korea), Linta Varghese (postdoctoral fellow, Vassar College), and Thuy Linh Nguyen Tu (Assistant Professor in History of Art and Asian American Studies, Cornell University).

38:11

Moving beyond Prozac, DSM, & the New Psychiatry: The Birth of Postpsychiatry by Bradley Lewis (Ann Arbor: University of Michigan Press "Corporealities," 2006—$70.00/$24.95, ISBN 0-472-11464-6 hard, 0-472-03117-1 paper, 198 pp., references, index) addresses the imbalance perceived by the author in psychiatry's current emphasis upon pure science of the brain and its neglect of human inquiry in its cultural and political contexts. Lewis, Professor at the Gallatin School, New York University, is well-situated to conduct this interdisciplinary investigation. He characterizes himself as a "hybrid academic," with degrees in the humanities and social theory as well as medicine and psychiatry. He seeks to provide the reader with an alternative view of psychiatry that he refers to as "postpsychiatry"— a term originated by Patrick Bracken and Philip Thomas, consultant psychiatrists associated with the University of Bradford, UK. They, like the author, are affiliated with the Critical Psychiatry Network, an organization committed to making psychiatry accessible to alternative research perspectives. Lewis hopes that this book provides a theoretical basis for postpsychiatric thought; introduces scholarship necessary to forge interdisciplinary alliances with the humanities; and creates strategies for developing inter-disciplinary alternatives to psychiatric practice. In chapter 2, "Dodging the Science Wars: A Third Theoretical Way, the author refutes the "science warriors" Paul Gross and Norman Levitt, authors of **Higher Superstition: The Academic Left and Its Quarrels with Science** (Baltimore, MD: John Hopkins University Press, 1994). Rather than debate their contention that humanities theories represent a dangerous and destructive challenge to scientific certainty, Lewis recommends thinking outside of the confrontational tone of such debates by adopting a broader appreciation for the humanities theories that speak to the representational practices of psychiatry. (Lewis devotes three pages of commentary in his notes in order to discuss structuralist and poststructuralist thought on linguistic representation and their application to postpsychiatry). In chapter 7, "Prozac & the Posthuman Politics of Cyborgs," the author argues that technomedicine (e.g., advanced imaging techniques, genetic manipulation, organ transplantation) marks the infiltration of technoscience into the world of the healing sciences. Life can be improved for a price. Physicians are little more than "glorified distributors of the new technologies." The explosive popularity of Prozac as a cure for depression demonstrated this, Lewis maintains. Calling for adoption of Donna Haraway's approach to technoscience in her "Manifesto for Cyborgs" essay (see above), Lewis advocates melding the scientific with the cultural/political/aesthetic. Since the cyborg is always simultaneously machine and organic, it replicates traditional binary opposites like nature/culture, pure/contaminated, and real/artificial. One must erase these distinctions, the author asserts, in order to work productively within the technoscience environment. What is at stake, the author contends, is the democratization of science: Prozac itself is neither savior nor demon; it is may be one or the other or both. In his epilogue, the author pays homage to poststructuralist philosophers Michel Foucault and Daniel Derrida by championing the deconstruction of the psychiatric distinctions between "mental health" and "mental illness"—conditions that are always inescapably interwoven. Postpsychiatrists should be "servicepeople" rather than "experts": caring for the other is more important than knowing the other (a basic tenet held by Greek and Roman cultures according to Foucault in **The History of Sexuality** (New York: Vintage Books, 1978). Lewis

envisions a postpsychiatric community working in partnership with patients to care for them as they care for themselves—a true democratization of technomedicine, and a proper application of Haraway's humanization of the cyborg.

38:12

Next: The Future Just Happened by Michael Lewis (New York: W.W. Norton, 2001—$23.95/$13.95, ISBN 0-393-02037-1 hard, 0-393-032352-8 paper, 236 pp.) is a popular account from a best-selling author arguing that while the profit-making potential of the Internet has been overrated, the social effects have not. It is "wildly disruptive" to speed up information as the Internet does, Lewis maintains. The Internet also makes it possible to circumvent rules, regulations and authority. The author views peoples' experience with the Internet as supportive of sociology's role theory which states that there is no "self" as such, just a series of masks we wear in various social situations. The book is divided into four chapters: the introduction—"The Invisible revolution; "The Financial Revolt (the story of 12-year-old Jonathan Lebed's manipulation if the stockmarket via online trading);" "Pyramids and Pancakes" (the tale of a 15-year-old who became an expert on AskMe.com by answering legal questions. This is an illustration of the "pancake" web philosophy that draws on the knowledge of a broad range of users, unlike the hierarchical pyramid conception.); "The Revolt of the Masses" (several illustrations of how the Internet has helped undermine corporate command and control organizational schemes); and "The Unabomber Had a Point" (a sampling of anti-technology activists, at least one of whom is sympathetic to "Unabomber" Ted Kaczynski's dire predictions regarding a machine takeover of civilization). Lewis's interesting stories about unusual people advancing uncomplicated—but troublesome—visions of the future: the immediacy of Internet communication causes one to lose appreciation for the future (so computer scientist Danny Hillis builds a "millennium clock" that will last ten thousand years); democratization of knowledge, facilitated by the Internet, will result in "the grey goo problem"—someone will intentionally or inadvertently set loose a catastrophic invention that will destroy the earth (so Sun Microsystems scientist Bill Joy becomes a publicist for Armageddon). Lewis references MIT computer scientist Ray Kurzweil (probably best known as the inventor of the first print-to-speech reading machine for the blind) in attempting to arrive at a decision concerning mankind's ability to survive runaway technology. While some like philosopher John Leslie predict human extinction, Kurzweil places the odds of human survival at better than 50-50. This book does not offer the reader notes, bibliography or an index.

38:13

Qualitative Communication Research Methods by Thomas R. Lindlof and Bryan C. Taylor (Thousand Oaks, CA: Sage, 2004 [2nd ed.]— $114.00/$48.95, ISBN 0-7619-2493-0 hard, 0-7619-2494-9 paper, 357 pp., 29-page reference list, name and subject indexes) marks the maturation of qualitative communication research as a scholarly discipline, according to authors Lindlof (Professor of Journalism and Telecommunications, University of Kentucky) and Taylor (Associate Professor, Communication, University of Colorado, Boulder). The authors believe that this text is characterized by a confidence in the nature of qualitative communication research: the study of "how people engage in symbolic performances to create meaningful worlds in which they live." Lindlof and Taylor endeavor to describe the path taken by qualitative communication researchers during their studies from conceptualization to realization. They admit a distinct bias for field studies, and elect to omit methodologies associated with discourse analysis, instead citing other significant discussions of this topic elsewhere, such as

Deborah Cameron's **Working with Spoken Discourse**
(London: Sage, 2001); and Stefan Titscher et al's **Methods of Text and Discourse Analysis** (London: Sage, 2000). In chapter 2, "Theoretical Traditions and Qualitative Communication Research: Communication as a Human Science," the authors survey postmodernist critical theory, noting that one of its tenets is the erosion of individual identity based on stability. Postmodernist identity is ambiguous and fragmented. Its construction may be characterized by simultaneity like that of the cyborg. Identity, therefore, is not the referent of communication, but instead the effect of discourses. In chapter 8, "Qualitative Research and Computer-Mediated Communication," Lindlof and Taylor address the concept of the "qualitative cyborg" considering Computer-Mediated Communication (CMC) as both topic and medium of future research. The authors express concern regarding researchers' possible abandonment of their interpretive roles to machines. They also warn about the growing digital divide that separates mundane researchers and elite, well-funded computer research sites. The authors assert that CMC research is becoming the domain of the "management approved, grant supported or independently-wealthy." Lindlof and Taylor point to Mary M. Gergen and Kenneth J. Gergen's "Qualitative Inquiry: Tensions and Transformations," in Norman K. Denzin and Yvonna S. Lincoln's **Handbook of Qualitative Research** (London: Sage, 2000 [2nd ed.]) which argues that scholarship lags behind the evolution of technical systems, resulting in the privileging of speed over critical thinking. The authors also see CMC as reversing the traditional advisor-advisee relationship: the older scholars needing to yield to the younger who possess greater technological expertise. CMC also poses a notable challenge—identification of theories and methods for analyzing visual and verbal texts. Lindlof and Taylor embrace CMC with cautious optimism. They like the fact that this is one communication field where researchers' interests coincide with those of technological stakeholders. Each chapter concludes with a few exercises requiring students to engage in activities such as conducting interviews, analyzing scenarios, scanning journals, writing scripts, or visualizing settings.

38:14
Internet Communication and Qualitative Research by Chris Mann and Fiona Stewart (London: Sage "New Technologies for Social Research," 2000—$124.00/$41.95, ISBN-0-7619-6626-9 hard, 0-7619-6627-7 paper, 258 pp., glossary compiled from Internet dictionary websites, appendices featuring an online consent form, an email text-based survey, and a web-page-based survey) is a practical guide to computer-mediated communication (CMC) that discusses the Internet as a research tool. Topics covered include basic services of the Internet such as email, chat, conferencing, usenet groups, and multimedia environments; behavior and language online; and Internet methodologies. In chapter 8, "Language Mode and Analysis," the authors investigate the nature and quality of data created via CMC. The authors regard CMC as offering a shortcut to text, because it bypasses face-to-face interaction. Mann and Stewart argue that CMC is a hybrid mode of communication, transmitted through typing like writing but consisting of rapid and informal exchanges like talk. Positive features of this hybridity listed by the authors are facilitation of thoughtful, organized communication; an emphasis on interaction; a communication pace set by the writer alone; reception of the communication at any rate the reader desires; reflexivity that increases accuracy; production of writing with conversationlike characteristics; production of a visible script that keeps the conversation on track and permits re-reading; and the ability to archive messages. Negative features listed include the superficiality of spontaneous speech; the unnatural quality of "screentalk" that is stilted and formal; and ambiguity of the written word that hinders

debate and the exploration of meaning. Because simultaneous communication of many people to many others is unprecedented, the authors contend, it presents us with features unknown in other modes of communication. Screen size, typing speed, minimal response times, and competition for attention all result in short postings and minimal gaps between conversational exchanges. Consequently, Mann and Stewart explain, CMC is characterized by the use of few words to convey meaning and general disregard for spelling and punctuation. Real-time chat software facilitates disjointed conversation with rapid topic shifts. Many threads are introduced, and the result, the authors maintain, is a new type of hybrid group interaction. In the end, Mann and Stewart contend that CMC is an effective research mode, because it is capable of generating data that is "open, spontaneous and reactive" than more traditional communication methods. They predict that CMC will become a reliable tool for advancing interpretation of human endeavor. In chapter 10, "Future Directions," the authors discuss the continuing growth of the Internet, inequalities in access, costs of participation, confidentiality of information, and the rise of nontext-based communication (voice and video). Other chapters address issues such as the practicality of employing CMC, ethical guidelines of CMC use, online communication methods, online focus groups, power issues, and virtuality's impact on data gathering.

38:15

Data Made Flesh: Embodying Information edited by Robert Mitchell and Phillip Thurtle (New York: Routledge, 2004—$85.00/$27.95, ISBN 0-415-96905-0 hard, 0-415-96905-0 paper, 292 pp., references, index) seeks to establish a field of "materialistic information studies" that erases the demarcation line between information and bodies. The fourteen chapters build on historian Mark Poster's 1970's "mode of information" pioneering work as well as the efforts of sociologist Manuel Castells in **The Informational City: Information Technology, Economic Restructuring, and the Urban-Regional Process** (Oxford: Blackwell, 1989) and **The Information Age: Economy, Society and Culture** (Oxford: Blackwell, 1996–1998). The book is divided into three sections: **bodies before the information age** (discussing ideas concerning "pre-informatic" bodily communication), **control and the new bodies' modes of informational experience** (examining how current discourses on informatics shape the human body), and **fesh remembered: art, information, and bodies** (investigating the use of bioinformatics in the visual arts). In chapter 9, "A Feeling for the Cyborg," Kathleen Woodward, Professor of English at the University of Washington, the author argues that the product of interaction between the humans and cyborgs will be a self-organizing and self-correcting being possessed of emotional intelligence. Woodward draws on the 1997 chess match between Russian champion Gary Kasparov and IBM's supercomputer Deep Blue as well as American science fiction films *Space Odyssey* and *Blade Runner/Do Androids Dream of Electric Sheep?* in order to compare the emotions with which fictional computerized entities are endowed with the mundane nature of actual human/technology interactions. The author believes the sociology of such communication to be characterized by sympathy and respect. In chapter 10, "If You Won't SHOOT Me, At Least DELETE Me! Performance Art from the 1960's Wounds to 1990's Extensions," Bernadette Wegenstein (Department of Media Studies, University of Buffalo) describes society's relationship to digital media as the product of the "double logic of remediation": our simultaneous desire to multiply our media while at the same time erasing all traces of mediation. The author calls this contradiction "hypermediation"—a style that stresses process/performance rather than the completed art object. Wegenstein traces the history of hypermediation's development through the stages of Dadaism, "happenings," and modernist collage techniques. These twentieth century

avant-garde milestones, the author contends, made it possible for the body to dominate performance art by use of tropes such as simultaneity, multiplication, and acceleration. Today, however, Wegenstein discovers, there is no longer any room for performance. Instead, we have moved into cyberspace where the body may not be merely collapsed or wounded but deleted. Like Derrida, however, Wegenstein believes that a trace remains in what appears to be silent nonspace. Other contributors to this volume (in addition to the editors): Anne C. Vila, Elisabeth Leguin (Associate Professor, Musicology, UCLA), Mark Poster (Professor of History, University of California, Irvine), Richard Doyle, Robert Mitchell, Timothy Lenoir (Professor of History, Stanford University), Mary Flanagan, N. Katherine Hayles (Professor of English, UCLA), Steve Tomasula (Assistant Professor of English, University of Notre Dame), and Eduardo Kac (Assistant Professor of Art and Technology, School of the Art Institute of Chicago).

38:16

Me++: The Cyborg Self and the Networked City by William J. Mitchell (Cambridge, MA: MIT Press, 2003—$27.95/$14.95, ISBN 0-262-13434-9 hard, 0-262-63313-2 paper, 259 pp., notes, index) investigates implications of wireless telecommunications on a global scale for humans and their habitats. Mitchell's particular emphasis is on what it is like to live in a world no longer limited by boundaries, but instead dominated by connections. The author argues that technology has created a world in which "we can do unto others at a distance and they can do unto us," and this situation has important consequences for designers, engineers and planners. Mitchell describes himself a one such designer who is engaged in reflecting critically upon the ramifications of his designs. In chapter 2, "Connecting Creatures," Mitchell defines himself as "a spatially extended cyborg." Humans are more than biological individuals, the author contends, because when we consider the nature of the individual, we must also consider its technological extensions and linkages. These interconnections, Mitchell explains, are constantly increasing in reach and depth as we witness the proliferation of networked systems of embedded computers; integrated, multifunctional systems; and "societies of the mind." In chapter 3, "Wireless Bipeds," the author likens one's cyborg self to a system of "nested shells." Inside one's skin is a carbon core run by genetic code and the central nervous system (perhaps assisted by implants). Small electronic devices combine with clothing to form an additional shell, one's car still another. Finally, long-distance networks create a geographically-dispersed shell with a global reach. Networks are essential to one's cognition, Mitchell argues, because they shape the way in which one experiences the world and acts upon it. According to the author, the proper study of mankind is no longer man: it is the "electronomadic cyborg." While granting that all of mankind is not networked to the same extent, and that some may prefer to unplug and seek a simpler life, Mitchell states that for him disconnection would be akin to amputation. He embraces the network. It is part of him: "I am visible to Google. I link, therefore I am." The author is Professor of Architecture and Media Arts and Sciences at MIT. This volume completes a popular trilogy on computer technology that began with **City of Bits** (Cambridge, MA: MIT Press, 1995) and continued with **E-topia** (Cambridge, MA: MIT Press, 1999). Quite properly, all three are available as e-books.

38:17

E-moderating: The Key to Teaching and Learning Online by Gilly Salmon (London: RoutledgeFalmer, 2003 [2nd ed.]—$79.95/$29.95, ISBN

0-7494-4085-6 hard, 0-7494-4086-4 paper, 242 pp., references, index) serves as a user's guide effective online teaching and training. The book is divided into two parts: **concepts and cases** and **resources for practitioners**. Chapter 5, "E-moderators and the participants' experience," employs case studies in order to provide readers with a wide range of online user perceptions. Gradual engagement, Salmon contends is essential for learners to become familiar with computer mediated communication, facilitating comprehension of online activities. Chapter 16, "Managing and Moderating: communicating online," addresses the subject of computer-mediated communication. The author recommends adoption of an online protocol by which communicators can enter into a dialogue. This protocol, Salmon argues, should be arrived at through shared agreement, and newcomers to any online discussion forum should be informed of the existing structure. The author covers when to email/when to conference online; when e-communication is inappropriate; and online "netiquette" for emails and conferences. Salmon advocates lifting and quoting from others' emails before replying to a message, using emoticons to convey a joke, and avoidance of capital letters because they are the equivalent of shouting. Gilly Salmon is a faculty member of the Centre for Information and Innovation at the Open University's Business School in the UK.

38:18

Information Technology and the World of Work edited by Daphne G. Taras, James T. Bennett, and Anthony M. Townsend (New Brunswick, NJ: Transaction Publishers, 2004—$29.95, ISBN 978-0-7658-0820-2 paper, 264 pp., references, index) examines the manner in which computer-mediated communication impacts three work-related issues: the relationship between workers and unions; employee power, identity, and mobilization; and employer policies regarding computer use and privacy. Each issue is addressed through the use of case studies, practitioner narratives, and scholarly investigation. In chapter 2, "The School of Hard Cyber Knocks: NEA's Experience," Sam Pizigatti, Barbara Yentzer and Ronald D. Henderson of the National Education Association discuss their organization's experience with the use of computers. The authors argue that organizational web sites must be personalized and individualized in order to attract the interest of members. NEA hopes for success with this *My Yahoo* approach after meeting failure with a more passive strategy. In chapter 7, "Workers as Cyborgs: Labor and Networked Computers," Mark Poster (Professor of History, University of California, Irvine) discusses how networked computing fundamentally changed the notions of mind/body and subject/object to which we unconsciously make reference in our understanding of the term "labor." In the process, Poster investigates the fluidity of information technology; the struggle of employers and employees to use email and the World Wide Web in their own interests; the emergence of entirely new types of workers (the nerd and the hacker) employing new skills in new ways; the debate regarding whether computers have brought about a democratization of the workplace, as claimed by Shoshana Zuboff in **In the Age of the Smart Machine: The Future of Work and Power** (New York: Basic Books, 1988); the challenge to workers of abandoning national identities in order to find their place in globalized networks; the restructuring of cultural space in the workplace; and the manner in which new configurations of humans and technology reside outside the control of managers and capitalists. In chapter 14, "Employee E-Mail and Internet Use: Canadian Legal Issues," David J. Corry and Kim E. Nutz, of the Calgary law firm Gowling Lafeur Henderson LLP, discuss computer-related legal issues arising during employment. Topics covered include harassment, defamation, copyright infringement, and employer liability for employee acts. The authors recommend employers obtain software packages that allow monitoring for improper email and Internet usage, and adopt in-house email and Internet usage policies. Federal and provincial

Canadian legislation that addresses privacy issues is reviewed, and excerpts of bills are included. Arbitrators frequently employ a two-part test in attempting to determine whether employers have the right to monitor employee Internet activity, the authors explain: 1) Does the employer have reasonable grounds that its interests are being adversely affected by the employee(s)? 2) Does the employer monitor employees only to the extent necessary in order to protect its interests? In conclusion, the authors urge that employers practice clear communication and respect for employee privacy so that problems may be avoided. Editor Taras is Professor of Industrial Relations at the University of Calgary; Bennett is an Eminent Scholar at George Mason University; Townsend is Associate Professor of Management at Iowa State University.

38:19

Prefiguring Cyberculture: An Intellectual History edited by Darren Tofts, Annemarie Jonson, and Alessio Cavallaro (Cambridge, MA: MIT Press, 2003—$32.95/$19.95, ISBN 0-262-20145-3 hard, 0-262-70108-1 paper, 322 pp., references, index) offers a series of essays that, according to N. Katherine Hayles, are in agreement on one important issue: technology alone is incapable of explaining the evolution of cyberculture. In her foreword, Hayles (Professor of English at UCLA) urges us to look to the past in order to better understand the present, because humans are born into a social and cultural matrix that extends through the centuries. Without an appreciation of the past, Hayles maintains, we can never hope to appreciate the possibilities of the future. Senior editor Darren Tofts (Chair of Media and Communications, Swinburne University of Technology, Melbourne, Australia) concurs. Becoming informatic, Tofts asserts, is an ongoing process, because cyberculture has developed over a long period of time, contrary to common belief. The book is divided into four sections: **I, robot: AI, a life and cyborgs**; **virtuality: webworlds and cyberspaces**; **visible unrealities: artists' statements**; and **futuropolis: postmillenial speculations**. Section one, introduced by editors Tofts and Johnson, identifies the question of what it means to be human as the essential issue of cyberculture. Does conceptualization of the cyborg and the condition of posthumanism preclude employment of dualistic or binary thought? How can we comprehend this new man/technology hybrid if we cannot understand what it is not? In attempting to answer these questions, Erik Davis, author of **TechGnosis: Myth, Magic and Mysticism in the Age of Information** (New York: Harmony Books, 1998), resorts to Descartes's first "Meditation," while Catherine Waldby (Reader in Sociology and Communications, Brunel University, London) references Mary Shelley's **Frankenstein**. Section two considers the nature of reality in the age of the virtual. In exploring the virtual, Gregory Ulmer (Professor of English and Media Studies, University of Florida) employs "choragraphy," a style of writing that employs analogy and juxtaposition in the creation of theories, in order to discuss the birth of a new metaphysics—"electracy," a form of post-literacy. Plato, Diderot, Balzac, Apollinaire, and Henry James are among those whom Ulmer cites in his musings. Section three offers artists's visions of cyberculture. Performance artist Stelarc (Stelios Arcadiou) refutes the popular notion that the Internet serves to satisfy a metaphysical desire for disembodiment. Instead, he argues that it facilitates the imposition of a bodily presence into cyberspace. Section four consists of essays questioning the nature of futuristic utopias, a task that has proved futile in the past, Tofts and Johnson assert, as evidenced by the literary and cinematic works about the years 1984 and 2001. Culture critic and New York University journalism professor Mark Dery ends the volume with a coda about architect Eero Saarinen's TWA terminal—"a symbol of things to come that never came."

38:20
Reading Digital Culture edited by David Trend (Malden, MA: Blackwell "Keyworks in Cultural Studies, Volume 4," 2001—$91.95/$38.95, ISBN 0-631-22301-0 hard, 0-631-22302-9 paper, 374 pp., references, index) attempts to present an intelligent discussion of the issues associated with digital communication technologies. Material culture, the editor maintains, has been transformed into "a vaporous cloud of signal and code." Does digital culture represent the culmination of the Enlightenment? Will it herald an economic utopia in a post-industrialist world? Is it the ultimate tool for man's transcendence? Will it facilitate man's extension beyond the material universe. Cyberenthusiasts seem to think so, Trend asserts. Critics of the digital culture have different questions to ask: Don't genetic engineering, computer surveillance, and cybercapitalism spell doom to those on the wrong side of the digital divide? Too often, the editor argues, those addressing these difficult questions resort to hyperbole and polemic. Trend, (Professor of Studio Art, University of California, Irvine) tries to present a collection of readings that acknowledge the complexity of the subject under discussion and resist the temptation to foreclose further investigation. The book is organized into six sections: **the machine in the garden**, which addresses specific questions related to digital media in a variety of disciplines; **knowledge and communication in a digital age**, where essayists confront problems associated with translation of digital culture's promise into prescriptions for a better life; **living in the immaterial world**, which presents commentary on globalization, commercialization, militarism, education, labor, and research while assessing digital culture's ability to enable change in the world; **performing identity in cyberspace**, discussing how computers alter the manner in which we think about ourselves; **searching for the community online**, debating the value of computer-mediated social relations and their likeness to the "imagined community;" and **reading digital culture**, presenting the meta-analysis of discourse surrounding digital culture in all its manifestations. In chapter 27, "The Virtual Community," the editor presents a section of cyberenthusiast/author Howard Rheingold's **The Virtual Community: Homesteading on the Electronic Frontier** (Reading, MA: Addison-Wesley, 1993). Rheingold observes that wherever computer-mediated communication exists, people use it to create virtual communities. Because of its enormous potential to influence so many people's lives, the Internet, Rheingold argues, is intimately connected to the future of democracy, science, and intellectual life. The author testifies that his own life has been changed immensely by his engagement with cyberspace: he inhabits virtual communities in many parts of the world, and, because communal conversations reside in his mind, these virtual communities inhabit his life—"I have been colonized; my sense of family at the most fundamental level has been virtualized." Other articles in this volume include computer pioneer Vannevar Bush's classic 1945 *Atlantic Monthly* piece, "As We May Think" (Bush was former director of the Federal Office of Scientific Research and Development); "ada" from author Sadie Plant's **Zeroes and Ones: Digital Women + the New Technoculture** (New York: Doubleday, 1997); "Johnny Mnemonic" from journalist and science fiction writer William Gibson's **Burning Chrome** (New York: William Morrow, 1986); "Dilemmas of Transformation in the Age of the Smart Machine," from former Harvard Business school professor Shoshana Zuboff's **In the Age of the Smart Machine: The Future of Work and Power** (New York: Basic Books, 1988); "Who Am We?" from clinical psychologist Sherry Turkle's **Life on the Screen** (New York: Simon & Schuster, 1995); and N. Katherine Hayles's "The Seductions of Cyberspace" from **Rethinking Technologies** (Minneapolis: University of Minnesota Press, 1993), edited by Verena Andermatt Conley et al..